

Remarks

Claims 1-15 are currently pending in this application, with claims 1, 9, and 13 being amended by this Amendment to correct minor editorial problems.

The Office Action objected to the drawings because of difficulty seeing graphical lines and a reference to Fig. 8; objected to the abstract as exceeding the 150-word limit; objected to claims 1 and 9 because of improper antecedent basis and minor typographical errors; rejected claims 5 and 13 under 35 U.S.C. § 112, fourth paragraph, as being of improper dependent form; rejected claims 1-18 under 35 U.S.C. § 103(a) as being unpatentable over Bache (U.S. Patent No. 4,979,992) in view of Owen et al. (U.S. Patent No. 6,023,980); and rejected claims 9-15 under 35 U.S.C. § 103(a) as being unpatentable over Bache in view of Owen et al. and further in view of Tse (U.S. Patent No. 4,662,228).

Applicants submit that the amendments to the specification, claims, and drawings render moot the objections to the specification (the Abstract specifically), the claims, and the drawings, as well as the Section 112, fourth paragraph, rejection of claims 5 and 13. Accordingly, Applicants respectfully request that these objections and rejection be reconsidered and withdrawn.

Applicants respectfully traverse the Section 103(a) rejections of claims 1-15 for the following reasons. Bache, the primary reference relied upon in the Office Action, discloses strengthening of concrete beams that are subjected to bending loads using reinforcements such as steel, composite rods, or fibers. Such concrete beams may be used for buildings, bridges, and other infrastructure applications. Bache fails to disclose any apparatus for measuring the mechanical properties of such beams, let alone a dynamic interphase-loading apparatus (DILA) and a method for testing the mechanical properties of an *interphase region of a fiber/matrix composite* under quasi-static to

dynamic loading conditions, as set forth in claims 1-15.

The other two references relied upon in the Office Action likewise fail to disclose an apparatus or method for testing the mechanical properties of an interphase region of a fiber/matrix composite under quasi-static to dynamic loading conditions. Owen et al. disclose a high-cycle fatigue testing machine for testing materials such as metal alloy matrix materials and metal-ceramic matrix materials. Owen et al. are silent with regard to testing the mechanical properties of an interphase region of a fiber/matrix composite. Tse discloses an automated testing system that tests the bond of reinforcing fibers in reinforced polymer composite members. Tse primarily focuses on targeting the fibers in the composite members, but fails to disclose testing the mechanical properties of an interphase region of a fiber/matrix composite.

Thus, even assuming, *in arguendo*, Bache is properly combinable with Owen et al. and Tse, the combination still fails to disclose an apparatus and method for testing the mechanical properties of an interphase region of a fiber/matrix composite under quasi-static to dynamic loading conditions, as set forth in claims 1-15 of the present application. Thus, Applicants believe that claims 1-15 are patentably distinguishable over Bache, Owen et al, and Tse, whether taken alone or in any viable combination. In light of this, Applicants respectfully request the reconsideration and withdrawal of the Section 103(a) rejections of claims 1-15.

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 03-2775. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be

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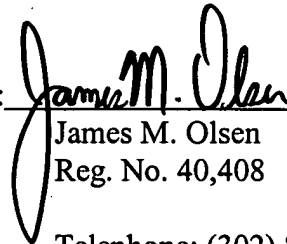
charged to our Deposit Account.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

Dated: June 12, 2003

By:

A handwritten signature in black ink, appearing to read "James M. Olsen", is written over a horizontal line.

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